

# EXHIBIT 3

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**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION**

ASETEK DANMARK A/S,  
Plaintiff and Counter-Defendant,

v.

COOLIT SYSTEMS, INC.,  
Defendant and Counter-Claimant,

AND

CORSAIR MEMORY, INC.,  
Defendant.

CASE NO. 3:19-cv-00410-EMC

**Highly Confidential – Attorneys’ Eyes Only**

**REBUTTAL REPORT OF  
DR. JOHN P. ABRAHAM REGARDING  
INFRINGEMENT OF ASETEK DANMARK  
A/S’S ASSERTED PATENT CLAIMS**

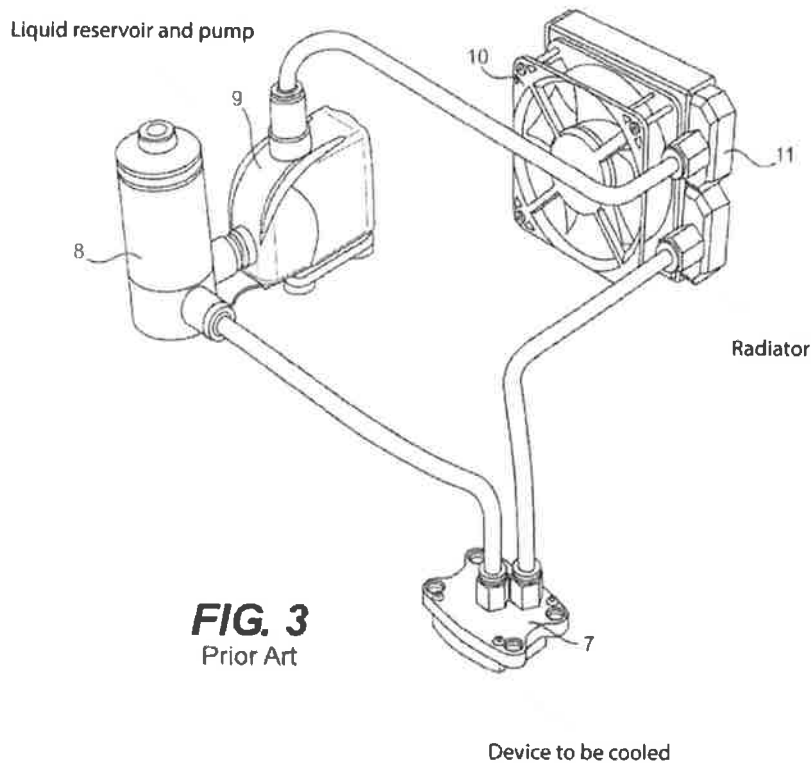
**I. SUMMARY**

1. I have been retained by CoolIT Systems, Inc. (“CoolIT”) as a technical expert to provide opinions regarding non-infringement of the following patent claims (collectively the “asserted claims”) from three patents that I understand are owned by Asetek Danmark A/S (“Asetek”) and currently asserted against CoolIT in the above-referenced litigation:<sup>1</sup>

<i>Asserted Patent</i>	<i>Asserted Claim(s)</i>
<i>U.S. Patent No. 8,240,362 (“’362 patent”)</i>	<i>17, 19</i>
<i>U.S. Patent No. 10,599,196 (“’196 patent”)</i>	<i>1, 2</i>
<i>U.S. Patent No. 10,613,601 (“’601 patent”)</i>	<i>1, 6, 11, 12</i>

<sup>1</sup> I understand the previously asserted claims of U.S. Patent Nos. 10,078,354 (the “’354” patent”) 10,078,355 (the “’355 patent”) have been invalidated and thus are no longer being asserted. I also understand the invalidation is on appeal. To the extent any of them come back to the case after appeal, I reserve my right to opine on them.

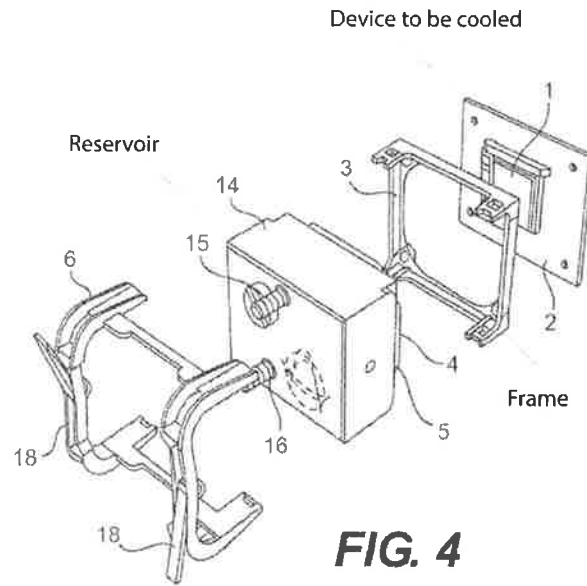
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'196 patent, Figure 2

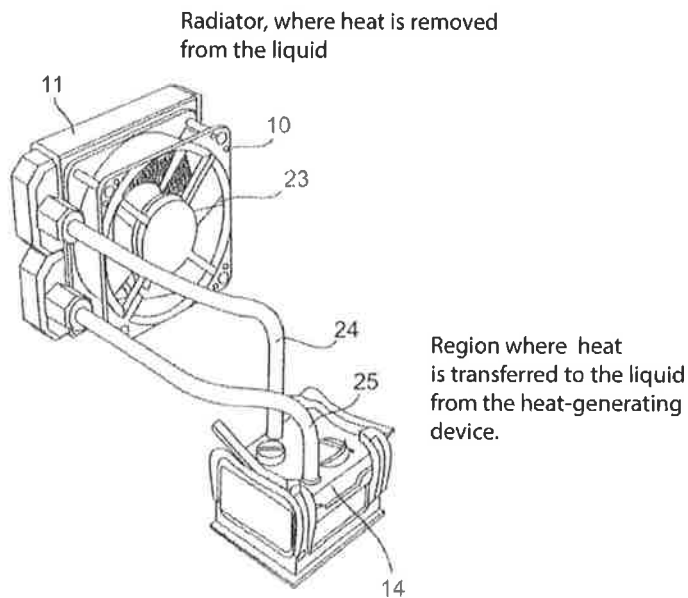
51. The asserted patents claim to provide improvements to the prior art because of their compact size and cooling efficiency. As shown in the following image, the asserted patents describe a fluid reservoir that is in close proximity to the heat-generating component. In the subsequent image, there is a depiction of the reservoir (14) in proximity to a heat-generating component and a radiator (11) that is connected to the reservoir by fluid-conveying tubes. Heat that is transferred to the liquid at the heat-generation location is subsequently removed from the liquid at the radiator.

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Braces

'196 patent Figure 4

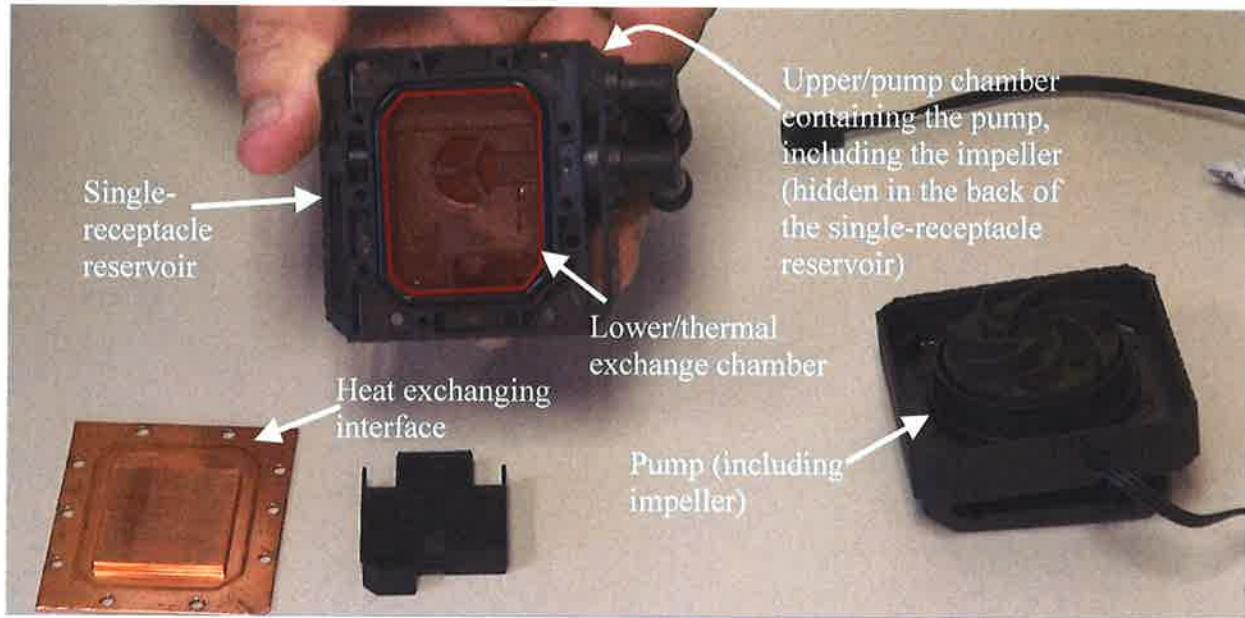


'196 patent Figure 7

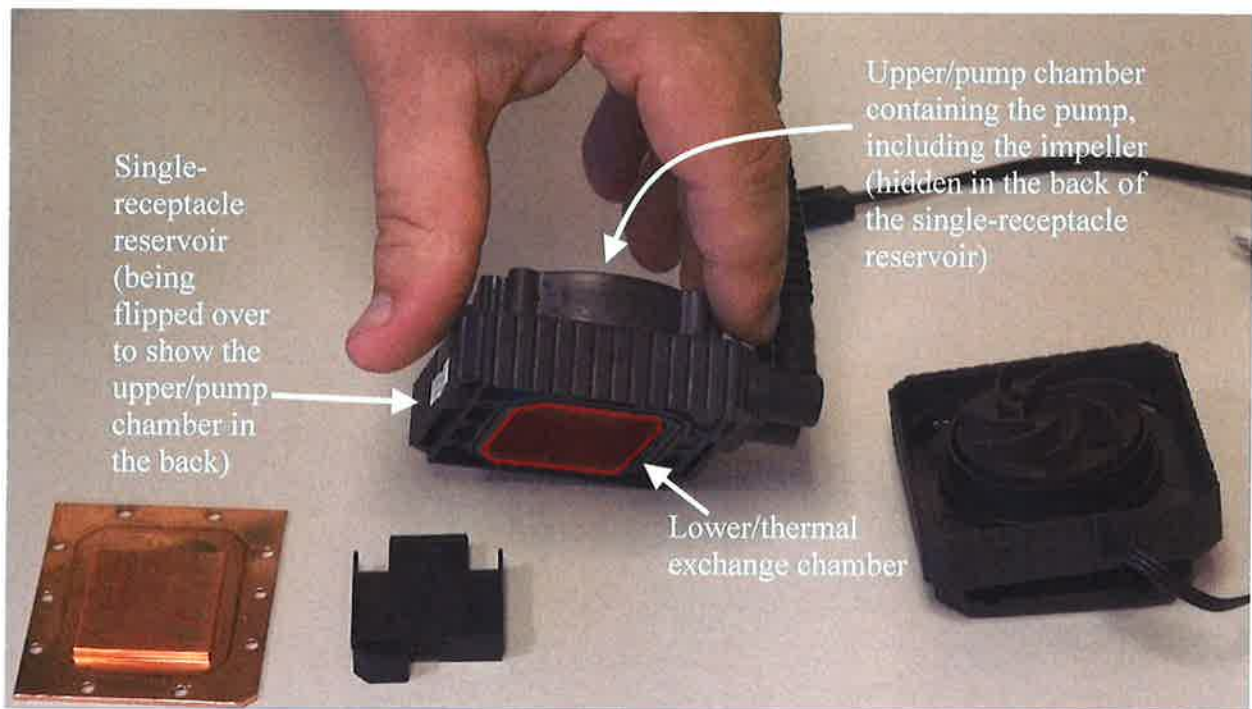
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52. The asserted patents claim that the patented technology provides a small and compact liquid-cooling solution that is more efficient than existing air-cooling arrangements and can be produced at a low cost. The asserted patents also claim that the patented device may be easy to use and implement and requires a low level of maintenance, or no maintenance. It is further asserted that the patented device can be used with existing CPU systems and existing computer systems (e.g., ’196, col 1, lines 57-67; ’362 col. 1 line 53-63; ’601 col 1, line 62 through col. 2, line 5).
53. Dr. Tuckerman states: “The reservoir in Asetek’s patented design is *a single receptacle that is divided into two chambers* (referred to as the “upper” and “lower” chambers in the ’362 patent and ’601 patent, and the “pump chamber” and “thermal exchange chamber” in the ’196 patent).” (Tuckerman at ¶ 35.) I agree with this statement in Dr. Tuckerman’s report. To illustrate what “a single receptacle that is divided into two chambers” actually means, a demonstration of a Cooler Master Seidon 120V product that Asetek claimed to be infringing the single-receptacle “reservoir” limitation as follows would be instructive:

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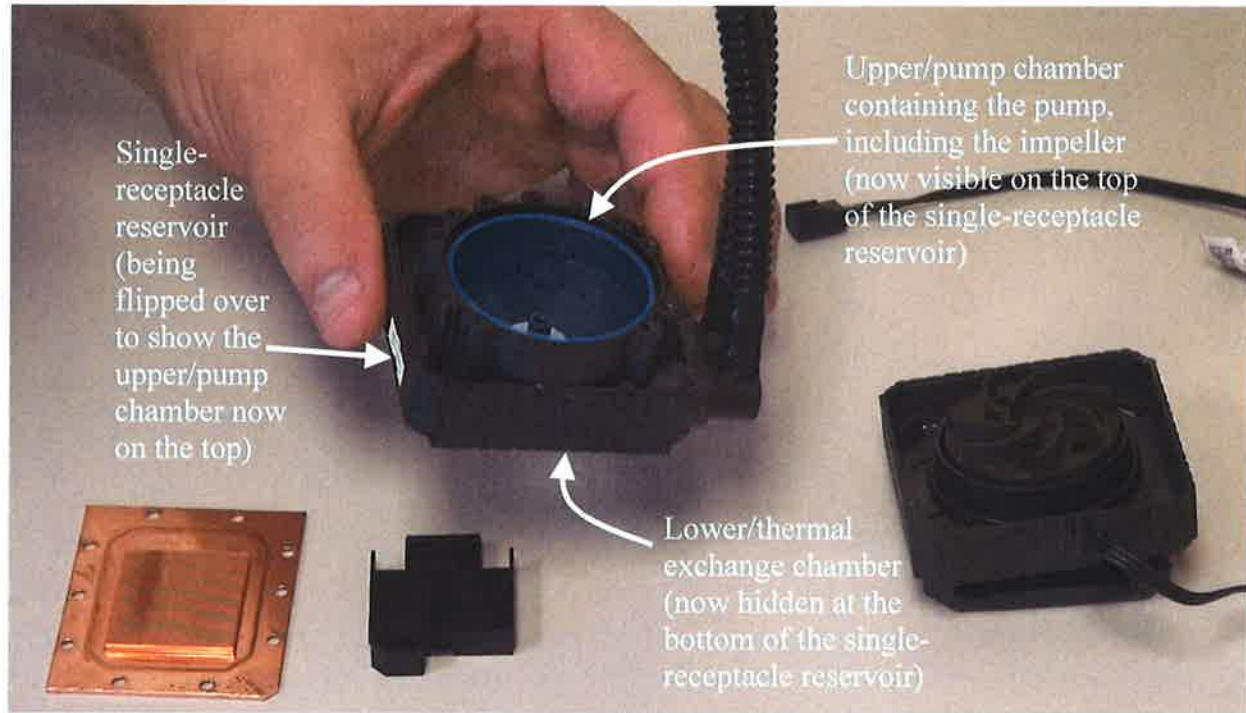
(2014 Trial Exhibit 363 (admitted into evidence, 2014 Trial Transcript at 627-628) at 02:03 (annotated).)



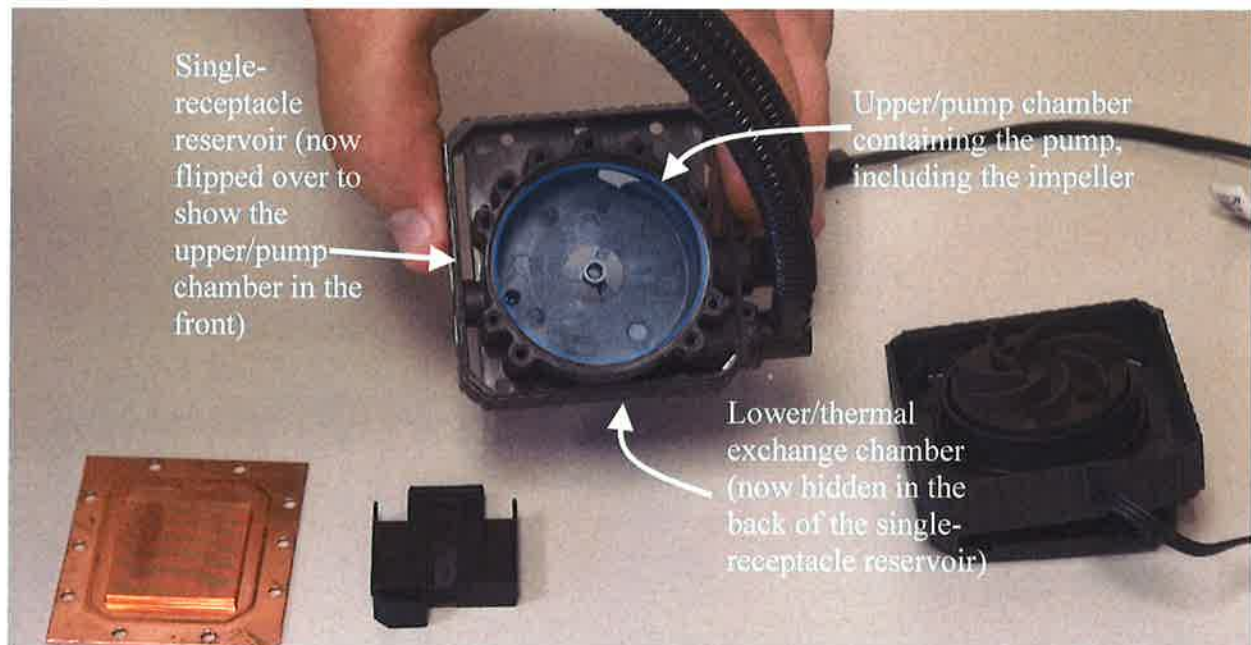
(2014 Trial Exhibit 363 at 02:06 (annotated).)



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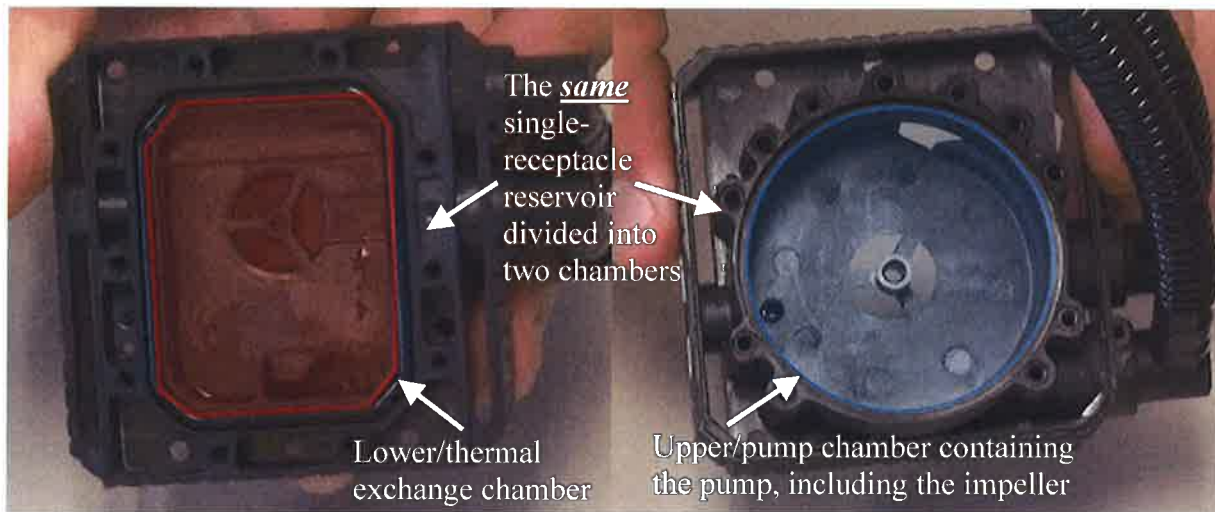
(2014 Trial Exhibit 363 at 02:08 (annotated).)



(2014 Trial Exhibit 363 at 02:10 (annotated).)

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54. As can be seen below with the single receptacle’s lower/thermal exchange chamber and upper/pump chamber shown side-by-side, the same “single receptacle ... is divided into two chambers.” It is important to note that the same single-receptacle component contains within it two chambers on its top and bottom, respectively:



(2014 Trial Exhibit 363 at 02:03 (on the left, annotated) and at 02:10 (on the right, annotated).)

55. As can be seen above, the structure separating the two chambers is within the same single receptacle and divides such single receptacle from within and into the two chambers within it. The two chambers do not have their own separate and separable enclosures, and they depend on the single receptacle to enclose them. This is in sharp contrast to the prior art (such as Ryu) and CoolIT’s new design (*see figure below*), of which the upper/pump chamber and the lower/thermal exchange chamber are separate and separable and have their own separate and separable boundary walls, as explained further in this report later.



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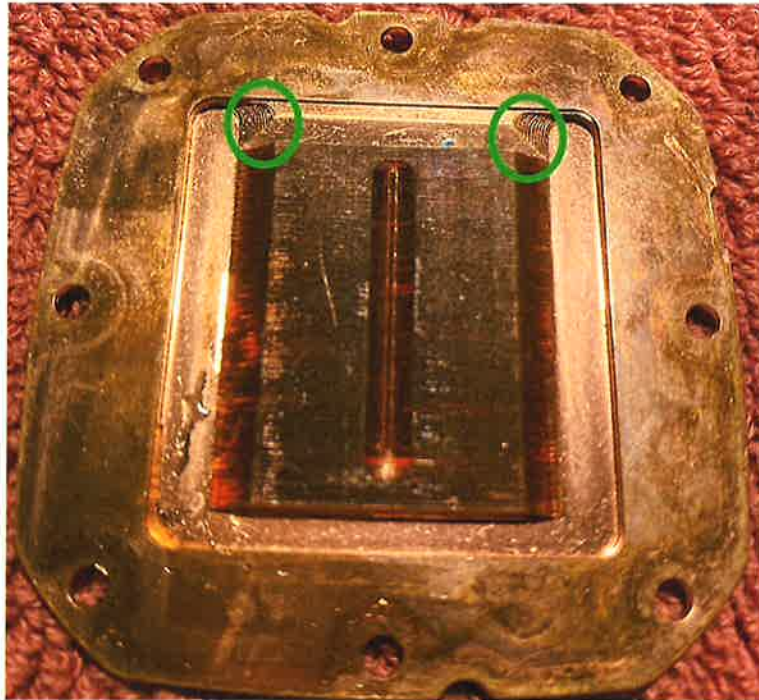
## Tuckerman infringement report

85. Unfortunately, Dr. Tuckerman failed to recognize significant differences between the claimed “reservoir” and the H100i Liquid Cooler. As I have already shown, the H100i Liquid Cooler has a copper component that is attached to a plastic housing. The copper component has a microchannel region which allows the passage of coolant close to the heat-generating device. In addition, the copper component also has a separate receptacle that serves an important fluid flow function. I have already identified that receptacle as a collection manifold (or exhaust manifold), as discussed above. Such manifolds are

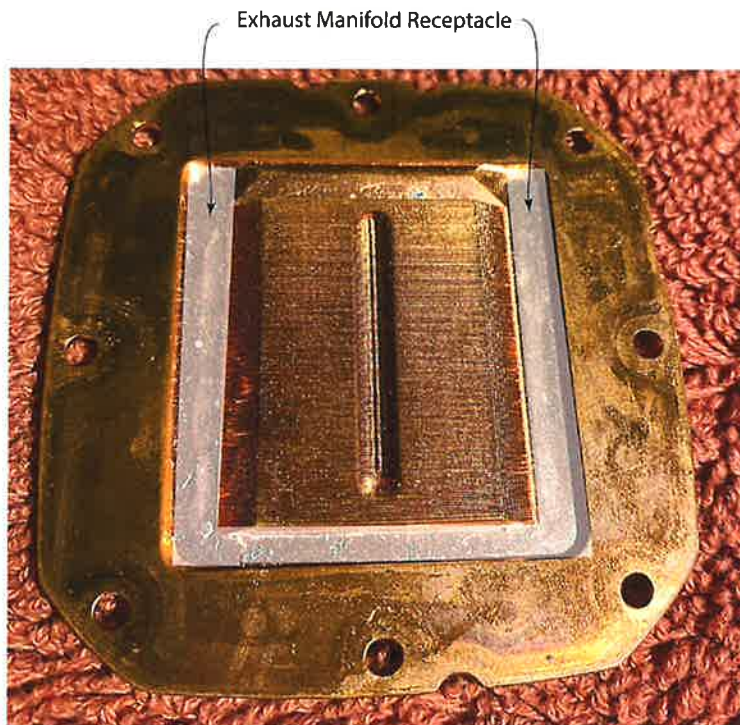
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important for fluid flow management. They allow the efficient collection of flow from a multitude of flow passages. They promote the equal distribution of coolant through the microchannels so that each channel receives a similar volume of flow. The manifold also efficiently directs the collected flow away from the microchannels so it can be ducted to the radiator with minimal pressure losses. The following photograph shows a closeup of the copper component that contains the exhaust manifold. I have highlighted machining remnants which reveal the depth of the new receptacle.

Machined Step-Downs



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86. It is obvious that the receptacle of the copper component is capable of holding coolant (with proper orientation of the copper component). Its ability to hold coolant is independent of any other receptacles that are present in the CoolIT H100i device. Also, the receptacle I have identified has a particular engineering purpose that is not accomplished by any other receptacle that is present. As Asetek’s prior expert Dr. Tilton has admitted, this kind of copper component, as exemplified by Figure 14A of U.S. Patent No. 9,057,567 (the “’567 patent”), can hold liquid and thus can function like a receptacle, which is simply “one that receives and contains something” like a container (Merriam-Webster’s Collegiate Dictionary (2000), at p. 972):



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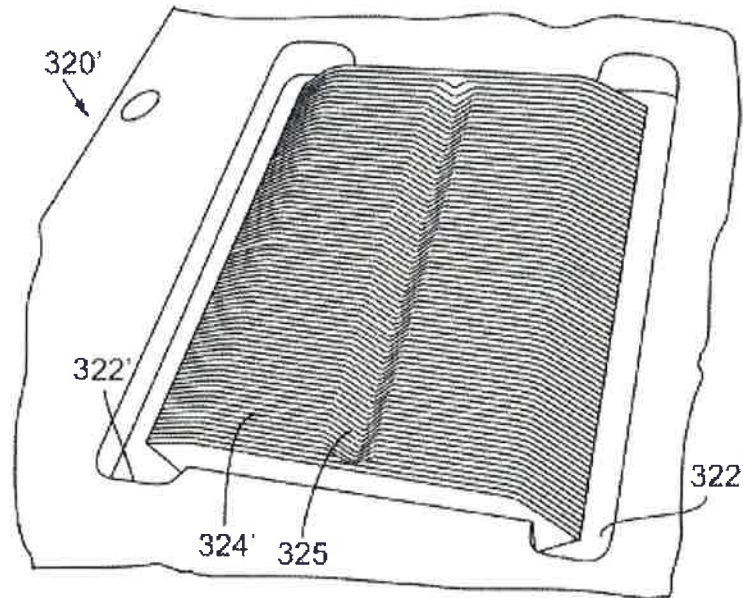


FIG. 14A

Figure 14A of the '567 patent

Donald E. Tilton, Ph.D.

Asetek Danmark A/S vs.  
CoolIT Systems, Inc.

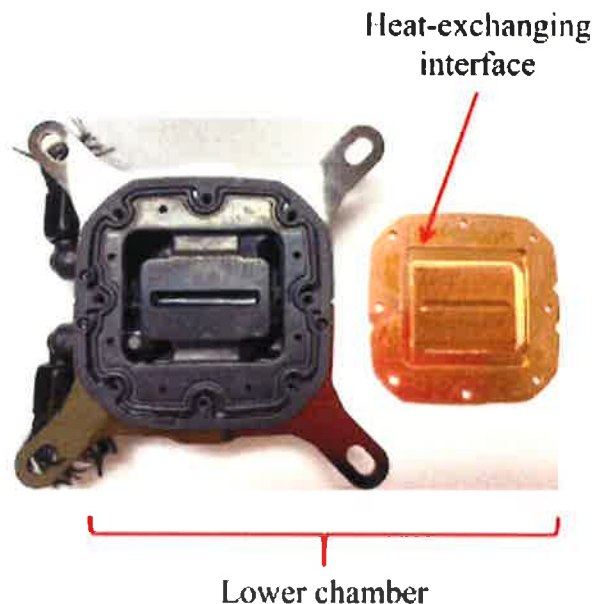
Page 37	Page 39
<p>1 THE WITNESS: I already mentioned that. The</p> <p>2 way it's depicted, that's what appears.</p> <p>3 MR. CHEN: Okay. Let's go ahead and take a</p> <p>4 take ten-minute break and be back at 3:30, please.</p> <p>5 (Break taken.)</p> <p>6 BY MR. CHEN:</p> <p>7 Q. All right. Dr. Tilton, I'd like to have you</p> <p>8 take a look at Figure 1 of Bezama. And I can share it</p> <p>9 on my screen; but if you prefer, you can also use your</p> <p>10 own copy.</p> <p>11 A. You can just share it, I guess. That's fine.</p> <p>12 Q. Do you see Figure 1 of Bezama?</p> <p>13 A. Yes, I do.</p> <p>14 Q. Okay.</p> <p>15 A. Now I don't.</p> <p>16 Q. Right. Right. I realize that.</p> <p>17 So I'd also like you to be able to take a look</p> <p>18 at Figure 14A of the '567 patent at the same time.</p> <p>19 Do you see in front of you Figure 14A of the</p> <p>20 '567 patent?</p> <p>21 A. I do.</p> <p>22 Q. Okay.</p> <p>23 I'd like you to compare Figure 1 of Bezama to</p> <p>24 Figure 14A of the '567 patent.</p> <p>25 So just considering these two heat exchange</p>	<p>1 BY MR. CHEN:</p> <p>2 Q. Okay. I'd like you to take a look at Figure</p> <p>3 14A of the '567 patent.</p> <p>4 A. Okay.</p> <p>5 Q. Thank you.</p> <p>6 If I add liquid to 320 prime, in Figure 14A of</p> <p>7 the '567 patent, will it contain liquid?</p> <p>8 MS. BHATTACHARYYA: Objection. Form.</p> <p>9 THE WITNESS: It will contain liquid up to the</p> <p>10 level of the top surface -- top surface -- the grooves</p> <p>11 around the edges that are labeled 322 prime appear that</p> <p>12 they would fill with liquid.</p> <p>13 BY MR. CHEN:</p> <p>14 Q. So 322 prime will receive and hold liquid; is</p> <p>15 that correct?</p> <p>16 A. That appears to be correct.</p> <p>17 Q. Could I have you take a look at Figure 13A of</p> <p>18 the '567 patent.</p> <p>19 A. Okay.</p> <p>20 Q. If I add liquid to 320, that's the heat</p> <p>21 exchange interface in Figure 13A of the '567 patent,</p> <p>22 will it contain liquid?</p> <p>23 MS. BHATTACHARYYA: Object to form.</p> <p>24 THE WITNESS: It appears that it will. Again,</p> <p>25 up to the level of the flat surface.</p>

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(12/19/2021 Dr. Donald Tilton Depo. at 39:1-16.) Additionally, I understand the Court in the prior *Asetek v. CoolIT* case construed “reservoir” as “a receptacle or chamber for holding a liquid or fluid.” *Asetek Holdings, Inc., et al. v. CoolIT Systems Inc.*, Case No. 3:12-cv-04498-EMC (Dkt. No. 155 at 6.) Under the Court’s prior construction, the copper component is a “reservoir” because it is “a receptacle or chamber for holding a liquid or fluid.”

87. With this now apparent, it is my opinion that Dr. Tuckerman is incorrect, and that what he has identified as a “lower/thermal exchange chamber” actually consists of multiple receptacles. This is because the parties have agreed that the claimed lower/thermal exchange chamber is a compartment within the single receptacle defining a fluid flow path. Because what Dr. Tuckerman points to as the lower/thermal exchange chamber actual has two receptacles, the accused product does not infringe.

This is not a lower chamber,  
it has two receptacles.



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**This is not a thermal exchange chamber, it has two receptacles**



**Thermal Exchange Chamber (exploded view)**

88. Further, the reason why Dr. Tuckerman has to point to two receptacles to satisfy the lower/thermal exchange chamber limitation is because there is simply little to no discernable space in the plastic portion of the accused device that can serve as the lower/thermal exchange chamber, as shown below:





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*12(i) a frame configured to fasten the reservoir to a board on which a computer system processing unit is configured to be mounted, wherein the frame has four holes, one provided in each corner of the frame configured to correspond to holes in the board;*

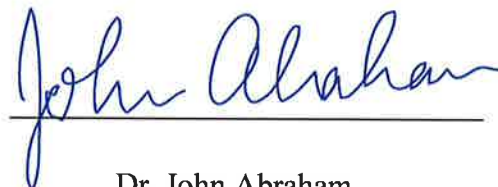
311. As I discussed with respect to the '362 patent, the new design does not possess the claimed reservoir or a chamber within the claimed reservoir, and therefore does not practice this claim element. I adopt that prior discussion here.

*12(j) a gasket configured to seal between the reservoir and the heat exchanging interface.*

312. As I discussed with respect to the '362 patent, the new design does not possess the claimed reservoir or a chamber within the claimed reservoir, and therefore does not practice this claim element. I adopt that prior discussion here.

313. Further, there is no inducement or contributory infringement by CoolIT because there is no direct infringement by any of the accused products, as discussed above. Neither CoolIT nor Corsair induces others to infringe because the accused products do not infringe. Also, neither CoolIT nor Corsair contribute to others' infringement because, again, CoolIT's accused products do not infringe.

Date: December 8, 2021

A handwritten signature in blue ink, reading "John Abraham", is written over a horizontal line.

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